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## BETULA MICHAUXII, A BRIEF SYMPOSIUM

### 1. INTRODUCTORY NOTE

M. L. FERNALD

IN his *Flora Boreali-Americana*, ii. 180, 181 (1803) André Michaux enumerated under true *Betula* five species: *B. nana* L., *B. glandulosa* Michx., *B. papyrifera* Michx. (with *B. papyracea* Ait. cited as a synonym), *B. lanulosa* Michx. [= *B. nigra* L.] and *B. carpinifolia* Michx. [= *B. lenta* L.]. All four of Michaux's own species had full and clearly stated descriptions and, quite naturally, it would be assumed that his diagnosis of *B. nana* was based on his own material so named:

NANA        *B. humillima*, *glaberrima*: foliis perpusillis, subcuneato-  
L.        orbiculatis, inciso-crenulatis, reticulato-venosis: amenti  
             squamis profunde 3-partitis, laciniis oblongis: capsulis  
             orbiculatis, subapteris.

*Hab.* in sphagnosis, a sinu *Hudsonis* ad lacus *Mistassins*.

Spach, citing the sheet in the Michaux Herbarium at Paris and Newfoundland material also there as the bases of a new species, *Betula Michauxii* Spach in *Ann. Sci. Nat. sér. 2*, xv. 195 (1841), emphasized the "ramis . . . novellis tomentosis" ["glaberrima"—Michx.], "foliis . . . cuneato-flabelliformibus" ["subcuneato-orbiculatis"—Michx.] and "Strobilis . . . squamis ovato- v. oblongo-lanceolatis" ["profunde 3-partitis"—Michx.]

Until recently I did not realize that Michaux was not describing his own material but was giving a compiled or copied diagnosis of the European *Betula nana* L. Across the southern half of the Labrador Peninsula, from north of the Straits of Belle Isle to the region of Hudson Bay, dwarf and depressed states of



both *B. glandulosa* (with glabrous branchlets, subrotund leaves and 3-lobed bracts) and of *B. pumila* L. (unnoted by Michaux) occur, and since nothing matching the characteristic Newfoundland shrub had been reported from west of the Côte Nord of Quebec, I assumed that the shrub from between Hudson Bay and Lake Mistassini must be one which fitted Michaux's description. Consequently, in RHODORA, xlvii. 326, t. 975, figs. 1-4 (1945), reasoning that the name *B. Michauxii* must be retained for the Michaux element (whatever that might prove to be) with glabrous branchlets, suborbicular leaves and deeply 3-lobed bracts (although Spach had not given these characters)—consequently, I named the characteristic Newfoundland shrub with densely pubescent branchlets, cuneate-flabelliform leaves and unlobed bracts and plump and wingless nutlets, *Betula terrae-novae* Fern.

Now, however, Professor Jacques Rousseau, exploring in Ungava, has recently found characteristic *Betula terrae-novae* in bogs along George River, thus proving that this distinct shrub actually occurs in the general region assigned by Michaux for *B. nana*. Then, securing a photograph of the Michaux sheet (their PLATE 1156) at Paris, he and his associate, Marcel Raymond, have presented (as Part 2, following) a carefully reasoned discussion, demonstrating that Michaux did not give a description of his own material but, assuming that he had the European *B. nana*, had contented himself by the easy copying or compiling of a European account of the latter species.

Since the photograph of the Michaux sheet, the TYPE of *Betula Michauxii*, did not show with absolute conclusiveness the simplicity of possible lobation of the bracts nor any of the plump and wingless samaras, it seemed to me wise to have the matter settled beyond any possible doubt. Therefore, I took advantage of the helpfulness of my always friendly correspondent, M. Pierre Senay, who had looked into other problems for me at the Herbarium of the Muséum National d'Histoire Naturelle in Paris. He and M. Paul Jovet of the Muséum made a close study of the type and M. Jovet made a sketch (their FIG. 1) of a portion of a fruiting ament under a binocular. The main portion of M. Jovet's drawing and of M. Senay's accompanying letter are included as part 3 in this brief but significant series of articles.



They clearly demonstrate that the conclusions of Rousseau and Raymond are fully justified and that the name *B. terrae-novae* is superfluous. It also becomes evident that caution must be exercised in ascribing to Michaux (or his editor, Richard) originality in all descriptions published in Michaux's great work. Incidentally and most embarrassingly, it must be recorded that, at this late date (after a lapse of nearly half-a-century) I find, on looking up the memoranda made by me when studying Michaux's Herbarium in 1903, I then made the soon forgotten note regarding his full sheet of branchlets of *Betula nana*: "*= Michauxii*, Spach! splendid specimens with constant characters".

## 2. BETULA MICHAUXII SPACH IN NORTHEASTERN AMERICA

JACQUES ROUSSEAU and MARCEL RAYMOND

(Plate 1156)

A dwarf birch, collected by André MICHAUX somewhere along the Rupert River or one of its branches: "Hab. a sinu Huds. ad lacus Mistassinosis in sphagnosis", is described in *Flora boreali-americana*. (1). MICHAUX believed the shrub to be the arctic *Betula nana* L. A superficial examination of the two shows a close resemblance. However, the fruiting scales in one differ markedly from those in the other: entire or nearly so in MICHAUX' plant, they are trilobate in true *B. nana* L.

Later on SPACH (2), having both MICHAUX' and probably LA PYLAIE's specimens on hand, described the plant as a new species under the name *B. Michauxii* and placed it in his new section APTEROCARYON.

In 1945 (3), Professor FERNALD rejected SPACH's name and redescribed the small birch of Newfoundland and adjacent Labrador, excluding MICHAUX' plant, which he had not seen at the moment. He called it *Betula terrae-novae*, on the assumption that *Betula Michauxii* Spach "had so confused a start". The confusion stemmed from two facts: the description which appears in *Flora boreali-americana* was not based completely upon the MICHAUX-plant, but partly on some European or Asiatic collection or description. In fact, there is in MICHAUX' herbarium a specimen of true *B. nana* L. with the indication: "Hortus Tri-